

AMENDMENTS TO THE CLAIMS

1. (currently amended) A fluidized-bed reactor for oxychlorination of ethylene, oxygen and HCl, said reactor having a reactor wall, with a heat exchange apparatus, said heat exchange apparatus comprising:

a heat exchanger, including a plurality of tube packets, in a fluidized bed for releasing heat evolved from an exothermic reaction of the oxychlorination to a heat-transfer medium in the tube packets, to water/steam; and

a ring pipe coupled to said heat exchanger and mounted directly onto an interior of the reactor wall,

wherein the tube packets are fed with water distributed via the ring pipe and the steam removed via the ring pipe, wherein the ring pipe terminates in is mounted as a distribution or collection chamber mounted on a wall of the reactor wall,

wherein the distribution or collection chamber is designed to be essentially circular in cross section and placed on the reactor wall both inside and outside with essentially one-half of the cross section assigned to the interior of the reactor wall and one-half of the cross-section assigned to [[the]] an exterior of the reactor wall with a first internal opening defined on the reactor wall between the chamber halves, said first internal opening having an opening dimension less than the diameter of the circular cross-section of the distribution or collection chamber, and

wherein the coupling between said ring pipe and said heat exchanger includes a second internal opening therebetween, said first and second internal openings for defining a desired pressure loss and hence for ensuring uniform flows over the tube packets.

2. (currently amended) A heat exchange apparatus for releasing heat evolved from an exothermic reaction in a fluidized-bed reactor for oxychlorination of ethylene, oxygen and HCl, said fluidized-bed reactor having a reactor wall, said heat exchange apparatus comprising:

a plurality of tube packets in a fluidized bed within said fluidized-bed reactor, said plurality of tube packets pressurized with a heat-transfer medium; and

a ring pipe mounted onto an interior of the reactor wall and coupled to said tube packets including ~~[[an]]~~ a first internal opening there-between for defining a desired pressure loss and hence for ensuring uniform flows over the tube packets,

wherein the tube packets are pressurized with the heat-transfer medium distributed via the ring pipe and gas removed via the ring pipe, wherein the ring pipe ~~is mounted as~~ terminates in a distribution or collection chamber mounted on a wall of the reactor wall, and

wherein the distribution or collection chamber is designed to be essentially circular in cross section and placed on the reactor wall both inside and outside with essentially one-half of the cross section assigned to the interior of the reactor wall and one-half of the cross-section assigned to ~~[[the]]~~ an exterior of the reactor wall with a second internal opening defined on the reactor wall between the chamber halves, said second internal opening having an opening dimension less than the diameter of the circular cross-section of the distribution or collection chamber, said first and second internal openings for defining a desired pressure loss and hence for ensuring uniform flows over the tube packets.

3.-8. (canceled)

9. (currently amended) A method of providing heat exchange in a fluidized bed reactor for the oxychlorination of ethylene, oxygen and HCl, the fluidized bed reactor having a reactor wall, the method comprising ~~said~~ the steps of:

providing a heat exchanger, including a plurality of tube packets, in the fluidized bed for releasing heat evolved from an exothermic reaction of the oxychlorination to a heat-transfer medium in the tube packets, to water/steam;

coupling a ring pipe to said heat exchanger; and

pressurizing the tube packets with water distributed via the ring pipe and releasing steam via the ring pipe, wherein the ring pipe ~~is mounted as~~ terminates in a collection or distribution chamber and is mounted on a wall an interior of the reactor wall,

wherein the distribution or collection chamber is designed to be essentially circular in cross section and placed on the reactor wall both inside and outside with essentially

one-half of the cross section assigned to the interior of the reactor wall and one-half of the cross-section assigned to [[the]] an exterior of the reactor wall with a first internal opening defined on the reactor wall between the chamber halves, said first internal opening having an opening dimension less than the diameter of the circular cross-section of the distribution or collection chamber, and

wherein the coupling between said ring pipe and said heat exchanger includes a second internal opening therebetween, said first and second internal openings functioning as throttle holes for defining a desired pressure loss and hence for ensuring uniform flows over the tube packets.

10.-16. (canceled)

17. (new) A fluidized bed reactor in accordance with claim 1, wherein the first and second openings have the same dimension.

18. (new) A fluidized bed reactor in accordance with claim 1, wherein the first and second openings have different dimensions.

19. (new) A heat exchange apparatus in accordance with claim 2, wherein the first and second openings have the same dimension.

20. (new) A heat exchange apparatus in accordance with claim 2, wherein the first and second openings have different dimensions.

21. (new) A method in accordance with claim 9, wherein the first and second openings have the same dimension.

22. (new) A method in accordance with claim 9, wherein the first and second openings have different dimensions.